



# **"RICHMOND"**

---

VAPOR HEATING SYSTEM



**CAMERON SCHROTH COMPANY**  
CHICAGO

ILLINOIS

Digitized by



ASSOCIATION  
FOR  
PRESERVATION  
TECHNOLOGY,  
INTERNATIONAL  
[www.apti.org](http://www.apti.org)

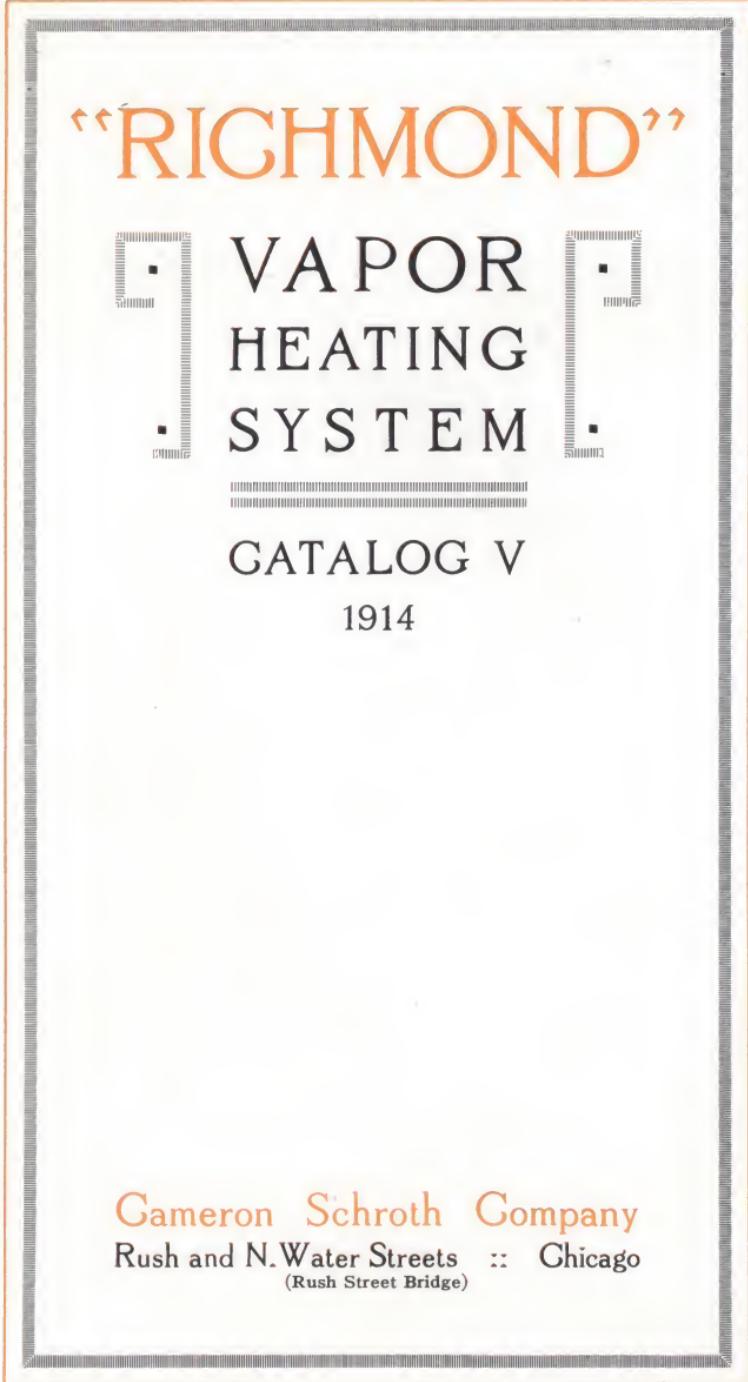
BUILDING  
TECHNOLOGY  
HERITAGE  
LIBRARY

<https://archive.org/details/buildingtechnologyheritagelibrary>

From the collection of:

Mike Jackson, FAIA

# "RICHMOND"



■ VAPOR ■  
HEATING ■  
SYSTEM ■

---

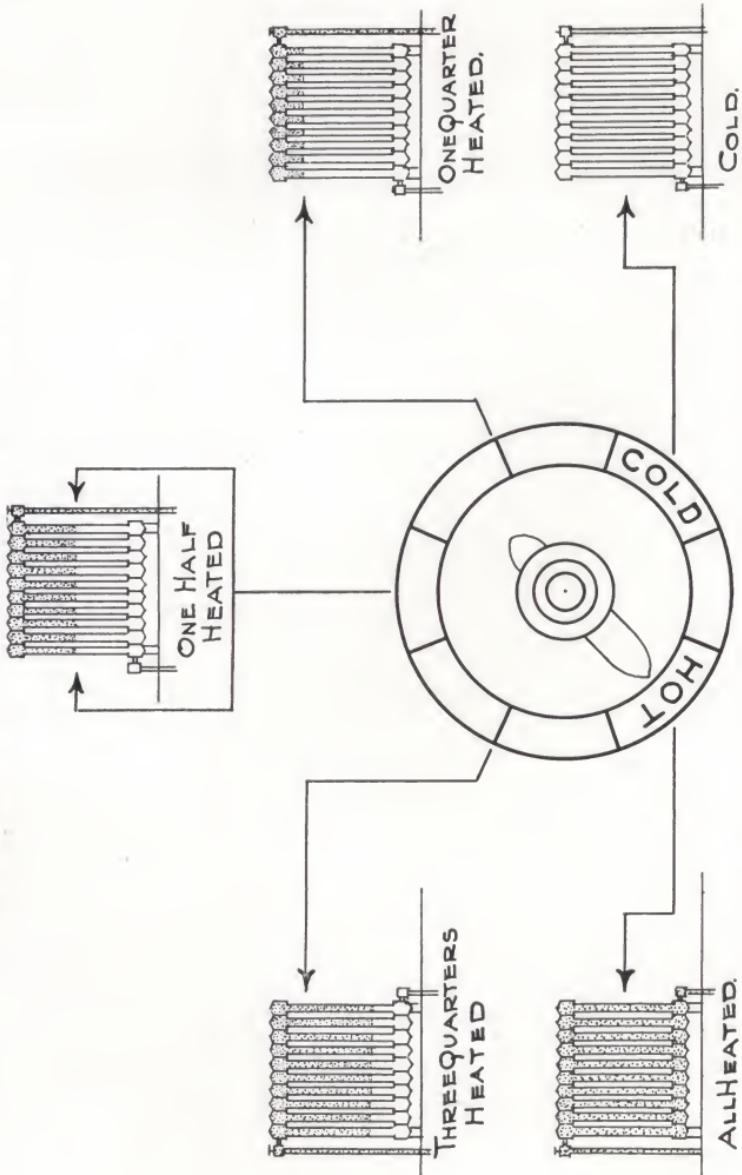
---

CATALOG V

1914

Cameron Schroth Company  
Rush and N. Water Streets :: Chicago  
(Rush Street Bridge)

RICHMOND GRADUATED VALVE



The Index Finger tells you at a glance just what portion of the radiator the vapor will fill.  
Just as much or just as little heat as wanted. You know exactly what is happening.  
The control is absolute. No air valves to siss and sizzle. No gurgling. No guess work.



1



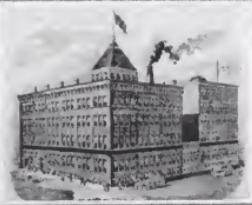
2



3



4



5



6



7



8



9



10



11



12

1—Kroeger Bros. Co. Milwaukee

3—Wisconsin Telephone Co. Milwaukee

5—J. H. Rice & Friedman Co. Milwaukee

6—Royal Pant Co. Milwaukee

8—Bartlett Cottage Ripon

11—Smith Building Ripon

2—Manufacturers Home. Milwaukee

4—Ripon Knitting Company Ripon

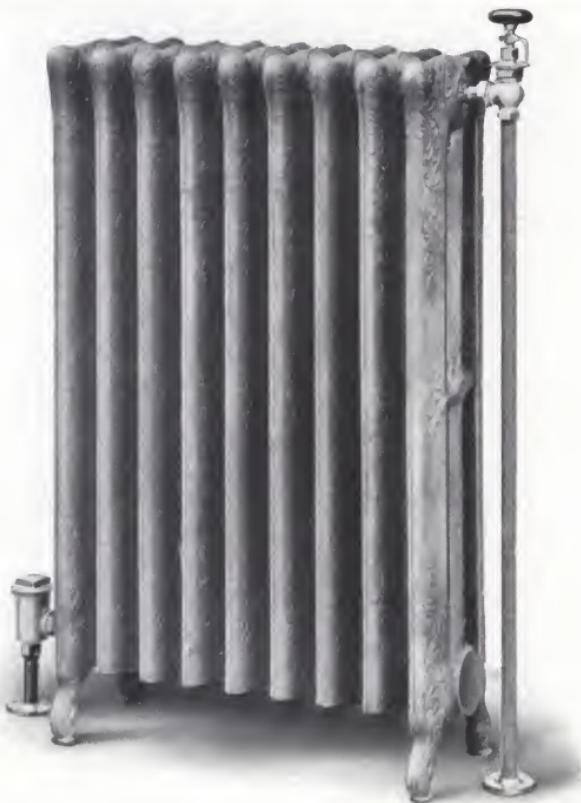
7—R. C. Hughes Ripon

9—Laboratory Ripon

10—Ingram Hall, Ripon

12—Empress Theatre Milwaukee

# The Selection of a Heating System



**O**N the heating system, during Autumn's chill, Winter's blasts and Springtime's rain and damp, we are dependent for comfort, warmth and health. To the selection of the proper heating system should be given the serious study and consideration which this important subject demands. The heating system ordinarily is the only apparatus in the building on which operating expense is to be reckoned.



# Foreword

IT IS THE MISSION OF THIS BOOKLET:

## TO EXPLAIN

the principles of Vapor Heating in general, and of the "RICHMOND" System, because of its merits, in particular. Technical description is avoided so the layman, as well as the heating contractor, engineer and architect may read and understand.

## TO GUARD

the purchaser against the selection of a system not suited to his requirements, or one expensive to operate and maintain.

## TO CALL

attention to the important features deserving consideration in the selection of the heating plant;

## TO DRIVE

home the fact that heating is a science—as such there can be only one correct system—and that Vapor Heating is that correct system;

## TO PRESENT

the merits of the "RICHMOND" Vapor Heating System in such a way that the owner, his contractor, engineer or architect will positively know, that in contracting for the "RICHMOND" the best system money can buy and ingenuity device, has been selected.



## Tersely Told

Hot Water Heating has advantages over Steam Heating.  
Steam Heating has advantages over Hot Water Heating.

Neither Steam, nor Hot Water Heating has a single advantage over the "RICHMOND" Vapor System of Heating, while Vapor Heating has advantages, over the others, i. e.—Vapor Heating has all the advantages of Steam and Hot Water Heating, and none of their disadvantages, and the "RICHMOND" System has many advantages over any other Vapor Heating System.



### ARCADIAN MALLEABLE RANGE CO.

Milwaukee, Wis., August 8, 1913.

Gentlemen:—

The selection of a heating apparatus is one of the things which I have inquired into very carefully. To a great number of people who are fondly looking forward to the new home, furnace heat is just furnace heat, steam heat is just steam heat, and one hot water system is practically like another. This lack of intelligent foresight in very many cases robs the home of the very first essential—comfort. How frequently do we hear people say, "Our house is excellent in every particular all but the heating".

For this reason when I had plans prepared for my new residence, I was very particular to see that the heating apparatus put into it would be the best that money could buy. I therefore, after a great deal of time spent, selected for my home "The Richmond System of Vapor Heating", which I consider the best on the market today.

Respectfully

WILLIAM L. PIEPLOW,  
Manager

# By Way of Contrast

## VAPOR VS. STEAM

Vapor Pressure of 1 to 5 ounces only is required.

Heat perceptible just as soon as the heated water begins to vaporize

Heat perceptible in from 10 to 15 minutes from the time fire is started.

Economical in consumption of fuel because only one to five ounces of pressure is maintained, and that is boiler only—heat being perceptible in radiators and piping as soon as vapor rises from water.

Graduated supply of heat as desired.

Steady Water Line—It is always possible to tell exact level of water in boiler.

Pressure of from 1 or 2 pounds to 10 pounds always required.

It is necessary during mild as well as severe weather to raise temperature of the water in the boiler to 212 degrees Fahr. in order to obtain steam, and also necessary to continuously maintain that high temperature and pressure.

Twenty to thirty minutes required to generate steam.

Consumption of fuel greater than in vapor heating because pressure of one or more pounds must be maintained at all times—during mild as well as cold weather.

Extremes in heat—either too much or too little—either heat turned on altogether or off altogether. A radiator sufficiently large to heat the room in coldest weather is too large in moderate weather: and one large enough for moderate weather is too small in severe weather.

Fluctuating water line.



THE ROYAL PANT COMPANY  
Milwaukee.

Milwaukee, Wis., July 21, 1913.

Replying to your letter of July 2nd, will say, we have been using the Richmond Vapor Specialties in our building at 189-91 Hanover Street for the past three (3) years, and are perfectly satisfied with same.

Yours very truly,

ROYAL PANT CO..  
(Signed) Wm. Kootz, Pres.

W.K.GJ

# By Way of Contrast

## VAPOR VS. STEAM

Valves especially constructed to permit partial or full supply of vapor to radiators. No chance under any condition of holding any water in radiators.

Radiator Valves only partly opened or closed fill radiators with water, causing hammering noise. Valves must be left open or closed. If valve is partially closed in an endeavor to control the temperature of the room the radiator will in short time fill with water.

No air valves. All water and air is returned to receiver and air separator in basement and air emitted to atmosphere or chimney; water returned to boiler, where it is used over and over again.

Automatic Air Valves on each radiator, which require constant attention and adjusting, which emit into the rooms escaping steam, foul air and often water accompanied by objectionable sputtering and hissing noise. Escaping steam and hot water have wrought much damage to floors, walls, carpets and furniture.

Vapor, Water and Air traveling in same direction. Separate lines returning water and air to receiver in basement. No counter circulation.

Water and Steam in mains and risers, traveling in opposite directions, in same piping. To this impractical method is due the pounding and cracking noise in pipes and radiators.

Valves placed within easy reach at top of radiator.

Valves placed at floor level.



### McCoy-Nolan Heater & Supply Co.

Boilers, Radiators, Heating Supplies,  
Mechanical Rubber Goods, Belting  
Hose Packings, Molded Goods, etc.

509 East Water Street.

Milwaukee, Wis., July 28th, 1913.

Dear Sir:—

Relying to your inquiry regarding the use of the "Richmond" Vapor Specialty, we beg to advise you that we have sold a great many of these in connection with the Richmond System of Vapor Heating and can recommend them as perfect in every detail and have given perfect satisfaction in a number of residences and public buildings where they were used for the past three or four years.

Yours very truly,

McCoy-Nolan Heater & Supply Co.,  
Per (Signed) John R. McCoy.

JRM-FLG



# By Way of Contrast



## VAPOR VS. HOT WATER

### Small Radiators.

Small volume of water to be heated. Water contained in part of boiler only.

Very few moments required to heat rooms to any desired temperature and an equally short time required to cool off.

Economy in consumption of fuel. Small volume of water to be heated and vapor generated only as required and supplied to radiators only as desired.

No damage is possible because of leaks, breaks or freezing, as the water is confined to the boiler. No possibility of freezing even if windows in entire building are left open.

Radiator valves can be closed tightly

Radiators 60 to 66 per cent. larger than in a Vapor Heating system.

Large volume of water to be heated. Water contained in boiler every radiator and pipe and even in tank set above the highest radiator.

Because of the large volume of water to be heated a long time is required to heat rooms and an equally long time to cool off. Frequently it is necessary to open windows to cool rooms as on days when the outside temperature rises 20 to 30 degrees.

Consumption of fuel is greater because of the larger volume of water to be heated.

As water is contained in every radiator and pipe, no small damage will follow leaks or breaks. The water in radiators and pipes is likely to freeze where windows in one or more rooms are opened for ventilating or when the building is left for several hours or days during which time the temperature has dropped below the freezing point.

Radiator valves cannot be closed tightly. The valves have a small hole in the discs through which circulation takes place even when the valve is closed. This hole in the disc is to prevent the water in the radiator freezing, which would be likely if the radiators were entirely shut off.

# □ By Way of Contrast □

## VAPOR VS. HOT WATER

Changes can be made in a Richmond Vapor Heating System and radiators removed and replaced during alterations or while decorations are being made.

Air discharged automatically to atmosphere or chimney.

Only a few moments are required to supply boiler with water.

System can be drained in a few moments. Water cannot be left in any part of the system, hence none is subject to freezing.

Pressure of one to five ounces.

Valves placed within easy reach at the top of the radiator.

Changes cannot be made without draining the system of a hundred or more gallons of water.

It is necessary to make frequent trips to each radiator to relieve it of air.

When filling the system with water in order to remove the air, it is necessary to go from room to room from basement to attic, to open air valves on each radiator.

When draining the system it is also necessary to open air valves on each radiator, otherwise water will be held in the radiators and is liable to freeze.

A hot water system in a two story dwelling has at least 10 to 15 lbs. pressure on the boiler due to weight of the water. If a heat generator or similar device is used, an additional pressure of 10 lbs. or more is carried on the boiler and a corresponding pressure throughout the building.

Valves placed at floor level.



### THE MARVEL SPENCER HEATING CO.

Milwaukee, Wis., August 8, 1913.

Relying to your inquiry regarding the use of the "Richmond" System of Vapor Heating, beg to advise you we have used the "Richmond" Vapor Specialties and find them perfect in all respects. We can recommend them to anyone wishing a first-class apparatus. We believe it is far superior to water having all of its advantages but none of its disadvantages. We have used these specialties on a number of contracts with fine results.

Yours respectfully,  
THE MARVEL SPENCER HEATING CO.,  
F. H. Meadows, Pres.



## Old Methods of Heating Being Discarded

FOR years people have tolerated ordinary steam heating apparatus designed to meet severe weather conditions, and yet entirely out of proportion to the work to be accomplished at other times, resulting in overheating and consequent discomfort and waste of fuel.

In an ordinary steam heating system it is necessary that the valves be either fully open or tightly closed. The radiator is either receiving all the steam the piping will supply, or it is receiving none. No graduation between these points is possible.

The Hot Water System, in respect to regulation of heat, is an improvement on steam. But the temperature changes very slowly. When the weather is extremely cold, or the fire is low and the water temperature has fallen, it takes an hour or more to generate enough heat for comfort. On the other hand when the house becomes over-heated it takes as long to reduce the temperature of the room. Windows are impatiently thrown open, causing draughts and endangering health.



Office of the President  
RIPON COLLEGE  
Ripon, Wis.

Replying to your inquiry regarding the "Richmond" Vapor System which you installed in Ripon College some years ago, I am pleased to be able to state that I am familiar with the "Richmond" Vapor Specialties, Valves, Traps, etc., and recommend them as first-class in every respect. This system of heating is an ideal one.

Wishing you success, I am,  
Sincerely yours,

RICHARD C. HUGHES.



## New Method of Heating By Vapor

THE "RICHMOND" Vapor System produces and distributes heat as required. Regardless of outside weather conditions there is never too much heat, yet always enough.

In a system of Steam or Hot Water there is often insufficient heat during severe weather except through forced firing and consequent waste of fuel, and steam is not temperate enough for mild weather. None of these systems responds instantly or automatically to change in weather conditions.

Vapor Heating meets the demands of seasons of warm days and cold nights, when a little heat is needed mornings and evenings to take off the chill, but none during the day. With the "RICHMOND" Vapor Heating System heat is supplied as needed by simply opening the valve.

After the water in the boiler becomes heated the entire building can be supplied with vapor within a very few minutes; and because the system is open to the atmosphere it can be as quickly cooled by closing drafts and checking the fire. During continuous cold weather the opening and closing of dampers is preformed automatically by the Damper Regulator which keeps all piping supplied with vapor ready to be turned, in any quantity, into one or all of the radiators.

**VAPOR** The term "Vapor" as used in relation to a Vapor Heating System means heat in a very familiar form—vapor rising from hot water. Vapor rising nat-

urally, as distinguished from steam rising under pressure.

No greater pressure is generated in the "RICHMOND" Vapor Heating System than in a tea kettle. No pressure at all, not even vapor pressure, is required in the radiators. The slight vapor pressure in the boiler of from 1 to 5 ounces is required for the sole purpose of operating the damper regulator. **ONE-HALF POUND OF WATER CONVERTED INTO VAPOR WILL FILL ALL THE RADIATORS IN A SMALL RESIDENCE.**

### THE "RICHMOND" VAPOR HEATING SYSTEM

Consists of certain patented specialties hereinafter illustrated and minutely described, which, used in connection with a Steam Boiler,

Radiators and a system of piping, completes a system of heating, the advantages of which are:

- Fool Proof
- No air valves
- Easy to install
- Rapid Circulation
- Noiseless Operation
- Automatic Operation
- Anyone can operate
- Almost devoid of pressure
- No danger of freezing water
- No foul air emitted into rooms
- No danger of flooding building
- Economical in fuel consumption
- Small piping, fittings and valves
- Temperature to suit weather conditions
- No mechanical pumps, ejectors or devices
- Radiators smaller than in Hot Water Heating
- Requires little or no attention for long periods
- Perfect control of temperature in every room by simply turning supply valve at radiator.

### ADAPTABILITY

The "RICHMOND" Vapor Heating System is adaptable to all kinds and sizes of buildings, for all climates and conditions. Old systems of Steam and Hot Water heating can be equipped with "RICHMOND" Vapor Heating System.



## SOURCE OF SUPPLY

The "RICHMOND" Vapor Heating System can be used in connection with any Steam Boiler of cast iron or steel construction, or on any power or central heating plant, or exhaust line from which pressure can be reduced through a Pressure Regulator from high to low pressure.

## OPERATION OF THE "RICHMOND" VAPOR HEATING SYSTEM

Incredibly short period heating system steam is generated in about 20 to 30 minutes. In the "RICHMOND" Vapor System vapor rises long before the temperature reaches the boiling point—212 degrees Fahr. therefore heat is perceptible within a very few minutes after the fire is started.

The vapor ascends into the supply pipes, passes through the branches, enters risers and fills the radiators through the graduated valves. This process is natural—natural because vapor is many times lighter than air and naturally ascends to piping and radiators above the boiler. There is no pressure, as is necessary with other systems—there is no air resistance to overcome.

Air is removed from the system through air lines and delivered to Receiver and Air Separator in basement, from which it passes to the atmosphere or chimney.

Water of condensation from radiators is passed through "RICHMOND" Return Traps and air return lines to Receiver and Air Separator, from which it is returned to boiler and heated over and over again.

The Graduated Valve supplies vapor to radiators in just the volume desired. The return traps, while relieving the radiators of water of condensation, also prevent vapor from passing into the air return line.

Water in mains is not required to pass through branches into risers and radiators, but is returned through bleeders at end of mains.

**SELF REGULATING** As the radiators become heated less and less vapor is condensed into water. Finally radiator becomes hot and little or no condensation takes place. It is then that a slight vapor pressure in ounces is exerted on the Damper Regulator and little by little the draft is shut off and the fire checked.

When the system is in full operation the Damper Regulator is in constant operation—quicken the fire or checking it as is necessary to produce vapor in proportion to its consumption.

**DOMESTIC WATER SUPPLY** During the period that heat is maintained in the boiler, hot water may be provided for domestic use by installing a hot water storage tank in basement. Tank must be provided with coil, to which the vapor and return lines of the system are connected, same as a radiator. This coil will provide and maintain in water of tank a temperature just a few degrees below boiling point.

When the heating system is not in use a separate tank, laundry or gas heater may be used.

#### **"RICHMOND" VAPOR HEATING DEVICES**

These consist of "RICHMOND" Graduated Valves, one of which is placed on the supply end of each radiator; "RICHMOND" Return Trap, one of which is placed on the return end of each radiator, "RICHMOND" Mercury Gauge, and "RICHMOND" Damper Regulator connected to the boiler, and the "RICHMOND" Receiver and Air Separator connected to the return piping of boiler. These devices are separately illustrated and fully described on pages following.



### "RICHMOND" DAMPER REGULATOR

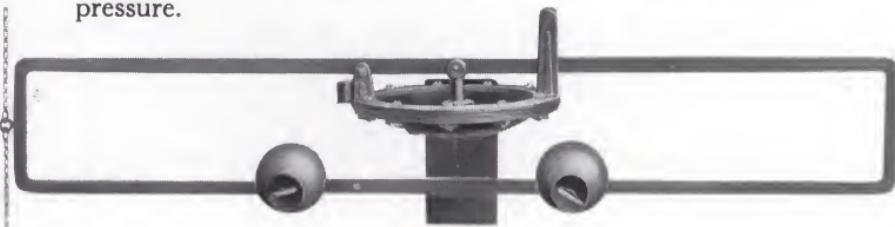
One of the most important parts of the heating system is the Damper Regulator, the function of which is to accurately control the heat by opening and closing drafts as more or less heat is required. An accurate and sensitive regulator materially assists in maintaining a steady water line in the boiler.

The "RICHMOND" Regulator can be set to operate the dampers on as low as two ounces of pressure at the boiler. It is usually set to close the drafts at about five ounces.

The "RICHMOND" Regulator is so sensitive that the opening or closing of a single valve is immediately communicated to the regulator which promptly performs its function. If all the radiator valves were shut off, the regulator would automatically close the drafts and the fire would be checked. If the valve on one radiator were opened half way, the regulator would automatically open the drafts, keeping them open until the radiator had become one half filled with vapor when it would again close the dampers and check the fire.

The weight can be placed at different positions along the arm to regulate the fire according to weather conditions.

While the "RICHMOND" Vapor System is designed to operate under from one to five ounces pressure, it can be operated under one or more pounds pressure if desired. We recommend that safety valve of boiler be set at 2 pounds pressure.



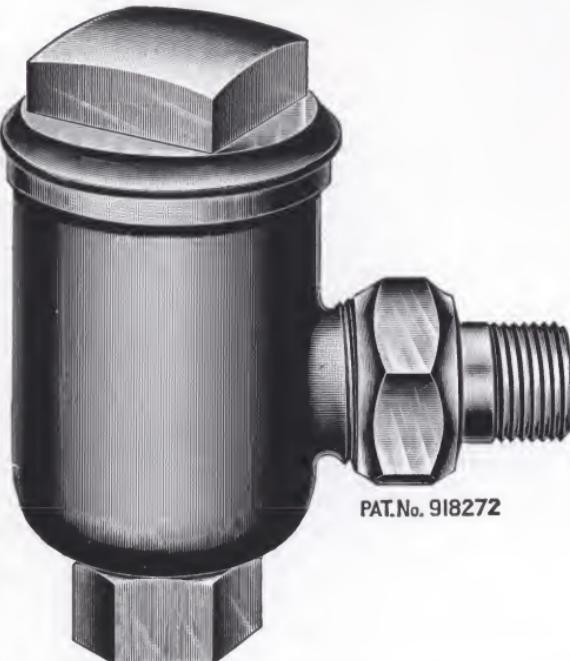
## "RICHMOND" MERCURY GAUGE

Gauges as ordinarily used on steam boilers are not sensitive. After a great many years of experimenting, a mercury gauge has been devised which registers the slightest vapor. It is graduated in ounces and is absolutely accurate. It is attached to the boiler or piping in the basement or may be placed in one of the living rooms over the boiler.



## "RICHMOND" RETURN TRAP

Is the simplest and most reliable device known to modern engineering practice for automatically relieving radiators of condensation and air, an automatic device not requiring the least attention or adjustment, which prevents vapor from escaping into air return lines. On the return end of each radiator is placed a "RICHMOND" Return Trap connected into the Air Return Line. It automatically controls the discharge of air and water of condensation without permitting the escape or loss of vapor.

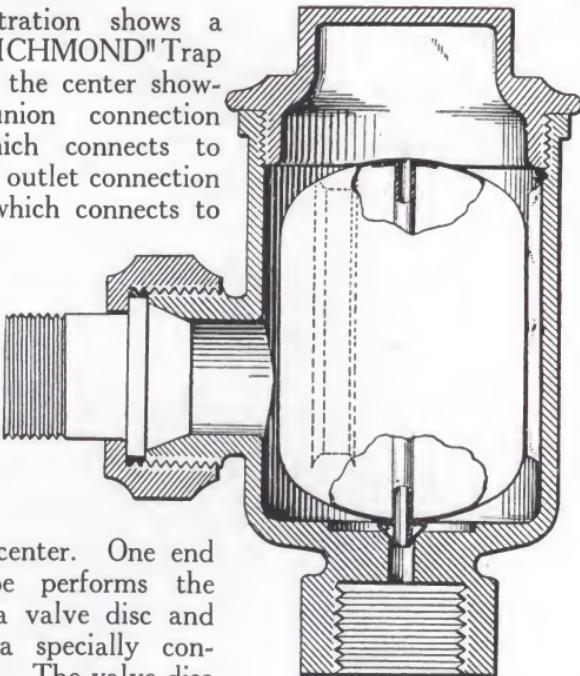


PAT. NO. 918272

Our Trap is really too simple in construction to be called a trap in the ordinary use of the word, for that term implies something heavy, cumbersome, a complicated apparatus generally consisting of levers, tanks, triple valves, air cocks, etc., all tending to cause trouble; whereas our device consists of but two parts and only one of these movable.

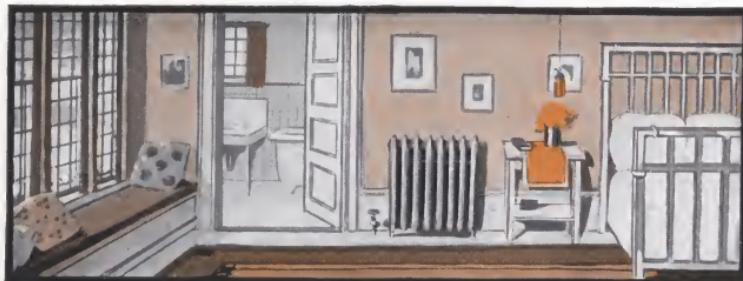


The illustration shows a complete "RICHMOND" Trap cut through the center showing the union connection at side which connects to radiator and outlet connection at bottom which connects to Air Return Line. It also shows the copper cylindrical float cut away at top and bottom to show the tube passing through its center. One end of this tube performs the function of a valve disc and rests upon a specially constructed seat. The valve disc and seat are accurately made and fit closely thus eliminating any possible leak of vapor at this point.



The tube above referred to passing through the center of the Float has an opening in it about one thirty-second of an inch in size, which is so small as to prevent the escape of vapor, at the same time permitting the air to pass in a downward direction to the Air Return Line.

When the Graduated Valve is opened on a cold radiator, the vapor flows rapidly into the radiator, displacing and expelling the rarefied air which passes from the radiator into the inlet of the "RICHMOND" Return Trap from which



point it passes downward through the center of the Float to the discharge opening and thence into the Air Return Line. This exhaustion is completed almost instantly. Meanwhile, the vapor which has entered the radiator expands rapidly and condenses in giving off its heat by radiation. The water so formed flows into the "RICHMOND" Return Trap and lifts the Float. The lifting of the Float opens the valve and a solid body of water is discharged into the Air Return Line. The Float remains raised until the buoying water has escaped when it drops into its original position. This action continues intermittently, according to the varying quantities of condensation. The air and water being ejected, although vapor is not allowed to escape.

For some installations conditions may require a Thermostatic Vapor Seal Trap and to meet such condition we furnish in place of the Richmond Return Trap illustrated and described on the foregoing pages the "RICHMOND" Vapor Seal Trap.

## Richmond Vapor Seal Trap

**"RICHMOND" VAPOR SEAL TRAP** The illustration shows a "RICHMOND" Vapor Seal Trap consisting of body, diaphragm, and strainer. When the graduated valve is opened on a cold radiator the vapor flows rapidly into the radiator displacing the expelled and rarefied air which passes from the radiator through the trap.

So long as air and water of condensation is passing through the trap the diaphragm remains in its normal or contracted condition.



When the radiator becomes filled with vapor and the vapor comes in contact with the diaphragm (the latter which contains a highly sensitive volatile liquid,) expands when heated, closes the trap and prevents any escape of vapor into the air line.

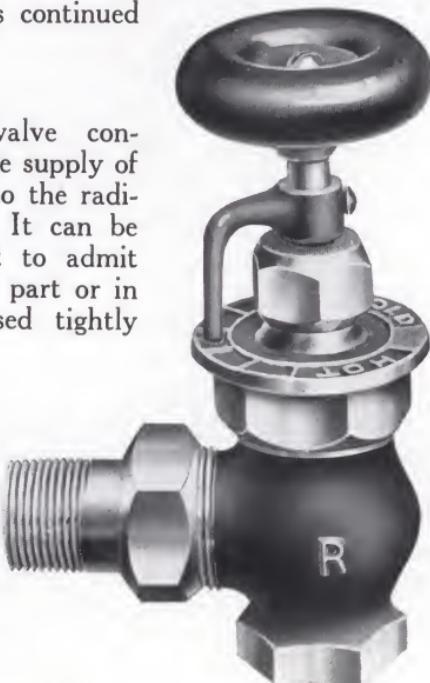
The diaphragm intermittently contracting (opening) as water of condensation reaches trap and expanding (closing) when vapor again reaches diaphragm.

The trap therefore performs the three functions of expelling the air discharging water of condensation and preventing the escape of vapor into air line. The process is continued automatic and positive.

#### "RICHMOND" GRADUATED VALVE

This valve controls the supply of vapor to the radiator. It can be instantly and easily set to admit vapor to the radiator in part or in whole, or may be closed tightly against the vapor.

To insure the economy and flexibility of the "RICHMOND" Vapor Heating System, the valve has accurate graduation and calibration of valve openings so that vapor will be admitted into the radiator only as desired.



The valve opens and closes completely with one turn of the handle, an indicator plainly showing its position and the operator can tell at a glance to what degree the valve is opened. If one quarter of the radiator is to be supplied with vapor, the indicator is set at the one-quarter mark. If more heat is desired the indicator is set at the one-half, three-quarter or full mark, as found necessary.

The valve is conveniently placed at one end at the top of the radiator. The "RICHMOND" Graduated Valve has a steam tight Jenkins disc. It has a wood wheel handle. We also make it with a lever handle.

"RICHMOND" valves are graduated to supply radiators of specified sizes and the graduations are based on five ounces pressure. We do not make one size valve to serve all sizes of radiators nor do we leave the adjustment to the fitter who installs the work. Each valve is plainly numbered.

#### "RICHMOND" RECEIVER AND AIR SEPARATOR

The successful operation of a vapor heating system, depends upon (first) the proper removal of air

from radiators and piping and its discharge to the atmosphere—(second), return of the water of condensation by gravity to the boiler—(third), prevention of loss or escape of vapor, steam or water to the atmosphere—(fourth), means for adaptability of its operation under one or more pounds pressure if desired or exigency requires.

The ""RICHMOND" Receiver and Air Separators embraces these essentials. It is open to the atmosphere into which all air is discharged; it is the medium through which, by gravity, all water of condensation from the radiators is returned to the boiler; its construction is such that neither vapor, or water can escape from the system. The system may, if desired, be operated under a pressure of one pound or more by simply placing the





weight on the damper regulator toward the end of the arm. The system may be subjected to an increase in pressure after the draft damper has closed the drafts as would result from neglect to close the ashpit doors. An automatic float valve in the Receiver and Air Separator raises the valve and prevents the escape of water and vapor from the system.

A sudden drop of many degrees in outside temperature or in rooms because of windows having been left open, quickly counteracted by the "RICHMOND" Damper Regulator, which, while designed to operate under a maximum pressure at the boiler of five ounces may be operated under greater pressure.

Because the system is open to the atmosphere there is no pressure on the air return lines or on the Receiver and Air Separator, and a check valve placed on the return line from the Receiver and Air Separator to the boiler prevents the pressure in the boiler being exerted on the Receiver and Air Separator. As the check valve is closed by the pressure in the boiler the return line and the Receiver and Air Separator



Established 1855.

J. H. RICE & FRIEDMANN CO.  
Manufacturers  
19th and Lloyd Streets.

Milwaukee, Wis., July 29, 1913.

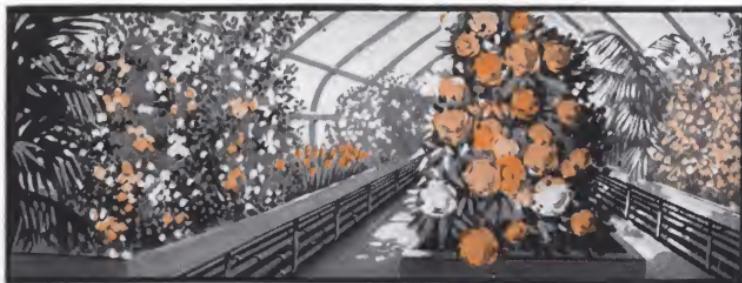
Replying to your inquiry regarding the "Richmond" Vapor System of heating, beg to advise you that we have used the "Richmond" Vapor System of heating in our manufacturing building on 19th and Lloyd Streets, using same for the past four years. It has given perfect satisfaction.

We formerly had a low pressure system apparatus, but with this apparatus we save about one-third of our coal.

We highly recommend this to anyone wishing a first class heating apparatus.

Very truly yours,

J. H. RICE & FRIEDMANN CO.,  
(Signed) H. S. Schwarting, Secy.



naturally receives and holds water at a level higher than the water level in the boiler, until the pressure of the water in the return line and the Receiver and Air Separator equals the pressure in the boiler, when the water is automatically lowered to the water level in boiler. Under mere vapor pressure—one to five ounces—the water in the Receiver and Air Separator is not raised sufficiently high to operate the float.

**INSTALLATION OF THE SYSTEM** On the following pages are shown typical floor plans of a residence—basement, first and second floors.

These plans show the location of boiler and radiators and the general arrangement of mains, branches and risers. The Water Receiver and Air Separator is shown alongside the boiler. The Graduated Valves and Traps are shown in connection with the radiators.



H. P. Cody, President

L. A. Burges, Vice-Pres.

J. W. Wright, Sec. and Treas.

**RIPON KNITTING WORKS**

Manufacturers of Wool Hosiery

"RIPON BRAND"

Seam Protected Leather Gloves and Mittens.

Ripon, Wis., July 24, 1913.

Replying to your letter of recent date making inquiry as to our experience with your "Richmond" system of heating, we wish to advise you that this system has been perfectly satisfactory in every detail and we should not hesitate to recommend it to any one considering the installation of a Vapor system. We are,

Yours truly,

RIPON KNITTING WORKS.

HAC-GB



**IN CONCLUSION** If you are interested in heating the home, either old or new or of any structure, whether apartment, mercantile building, church or school, write us for special data and cost of installation of a system for your building. An estimate will be cheerfully furnished without any obligation on your part.

If your present mode of heating is unsatisfactory—if the fuel bill is too high, the maintenance requires too much time, if the repair bill is unreasonable, notify us. The trouble can be remedied. Heating is a science and the scientific and mechanical application of its principles to your building will insure an apparatus which gives warmth and comfort, is economical, satisfactory and **PERFECT**.

If the heating contractor for your work has already been selected, refer this catalog to him and request his figures on a "RICHMOND" Vapor Heating System. Quotation and information will be sent him on request.



**THOS. E. HOYE HEATING CO.**

Consulting Engineers and Contractors.  
Steam and Hot Water Heating  
Ventilating and Power Plants  
509 East Water St.

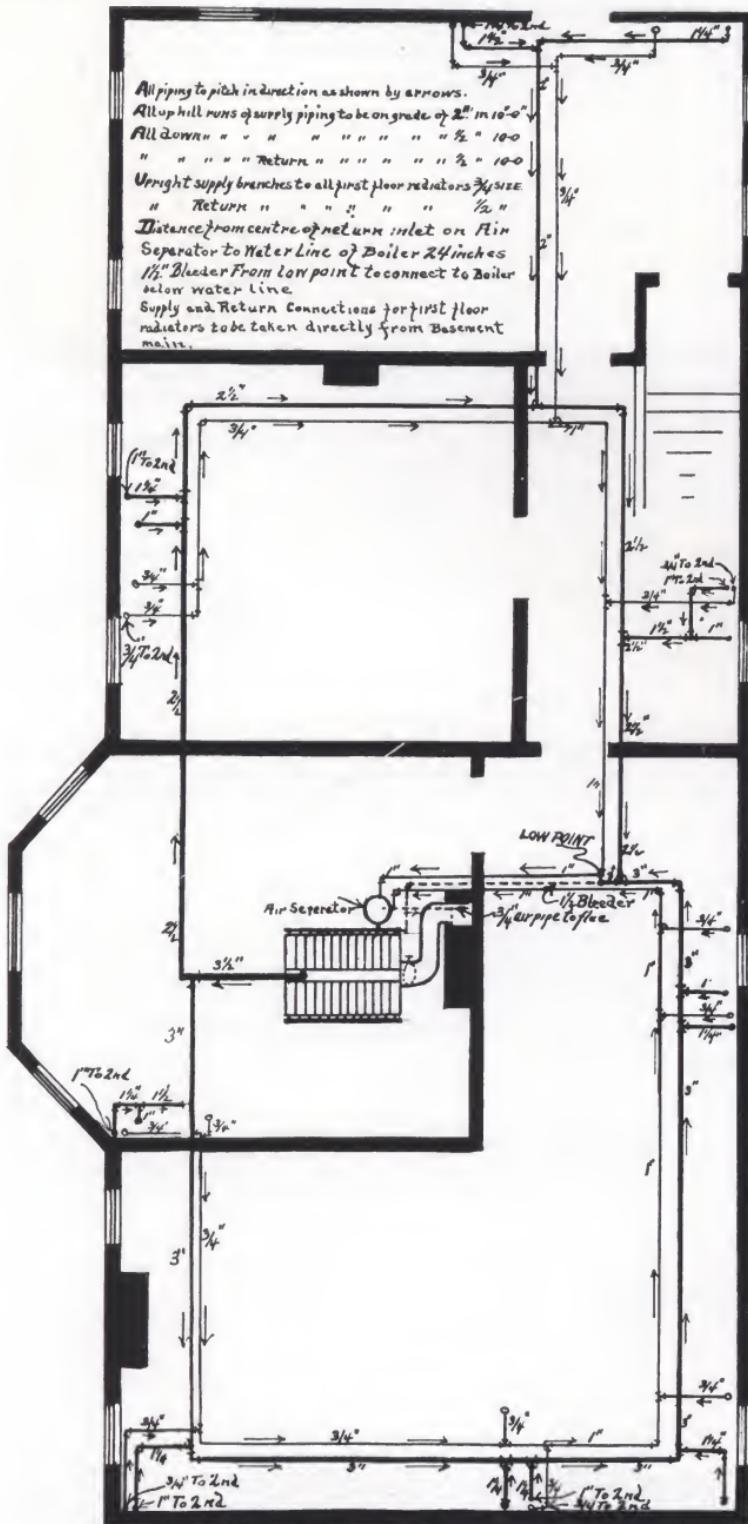
Milwaukee, Wis., July 28th, 1913.

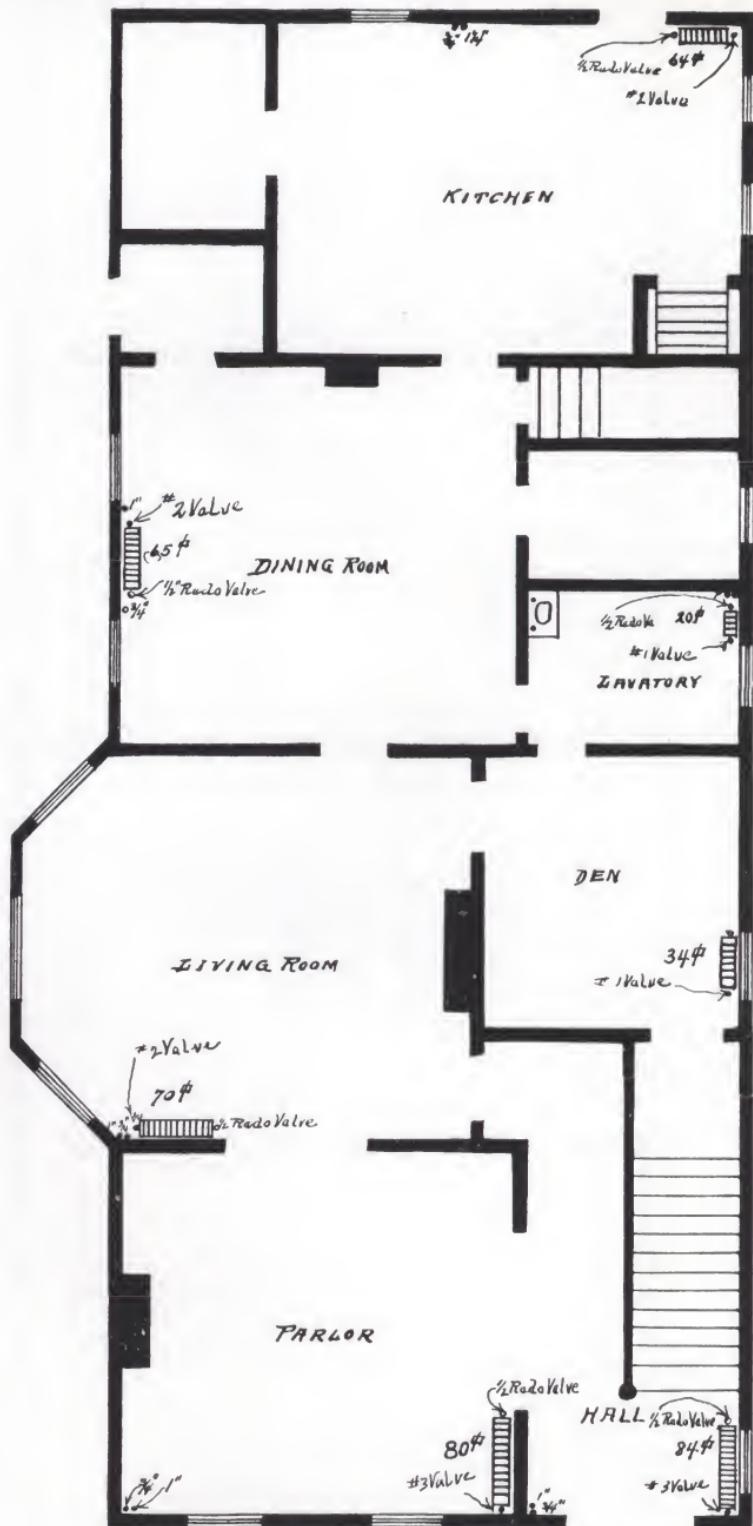
Replying to your letter of July 25th, we will say that we have used the "Richmond" System of Vapor Heating Specialties on several jobs and can recommend them as first-class in every particular and call to mind the Empress Theatre on West Water St. where the "Richmond" Vapor System is used and which has been in use for the past three years giving perfect satisfaction.

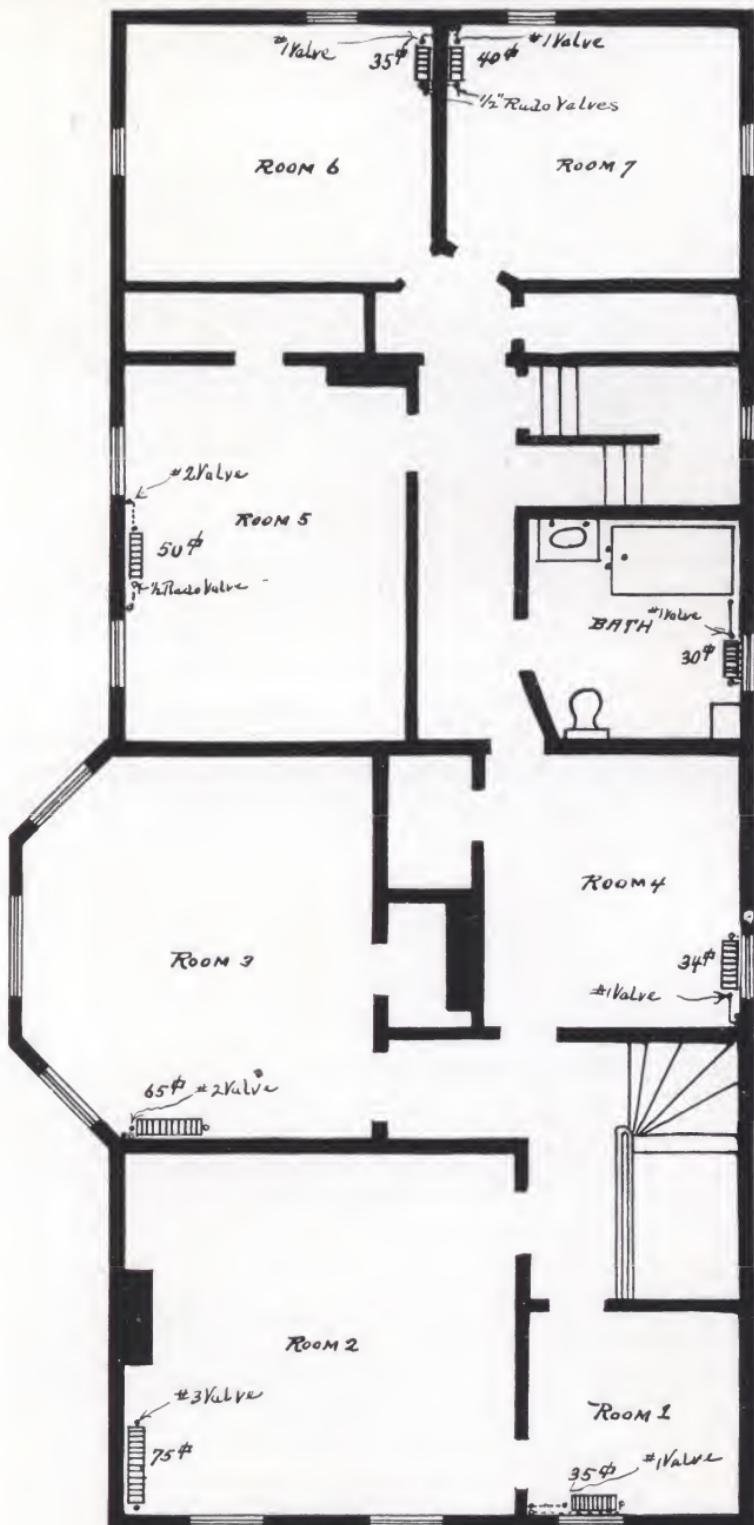
Very respectfully yours,

THOS. E. HOYE HEATING CO.,

(Signed) Thos. E. Hoye







### THE BALDWIN SANITARIUM

Kalamazoo, Mich.

March 10th, 1914.

I am in receipt of yours of the 9th referring to the Richmond Vapor Heating System, which we recently installed in connection with the Richmond Boiler, of 4900 units and an independent boiler room, heating our forty room building.

We began using the plant during the coldest part of the winter, using mine run Pocahontas, and in comparison with the same amount of room that we had previously used in another building using the one pipe system, we used one third of the same amount of coal that the other building required averaging from four to eight ounces of steam to keep the building in normal conditions.

To date with an outside temperature of 50 all the radiators are shut nearly off, and the building registers 65 to 70, according to the temperature required in different rooms. It certainly is most satisfactory to be able to operate and accurately gauge the temperature of each room according to the condition of each individual patient. It is easy to operate, economical, noiseless, no escaping vapors and I believe, you will be well pleased, as we are with the system.

We have boiler capacity enough to utilize double the room we are now occupying, which we expect to do this coming season.

The Cameron Schroth people have extended to us every courtesy, as has Mr. W. Warren of Cassopolis, Michigan, who first called our attention to the system.

Very truly yours,

Z. L. BALDWIN, M. D.

---

J. Meier, Prest., 2152 Alice Pl.      J. Frischknecht, Vice-Prest., 2721 Sheffield Ave.  
H. W. Wedel, Secretary, 3267 Cortlandt Street.  
F. W. Meier, Fin. Sec'y., 1632 Humboldt Blvd.      Leonard Specht, Treas., 2500-2508  
W. North Ave.

### WESTERN GERMAN BAPTIST OLD PEOPLES HOME

1851 No. Spaulding Ave.

Supt. of the Home, Mr. and Mrs. Schmidt.

Chicago, March 10th, 1914.

My Dear Mr. Holt.

Received yours of the 9th and will gladly tell you what I think of the Richmond Vapor System.

We had it installed in one of our buildings, 3264-66 W. Cortlandt Street and we are very much pleased with it and I think there is nothing like it.

Respectfully yours,

HUGO SCHMIDT, Supt.

---

### CHARLES H. FELTON

Plumbing and Heating—Tubular Wells.

Telephone 138

Cameron Schroth Co., Chicago.

Crown Point, Ind., Feb. 26th, 1914.

Dear Sirs:—

I have completed the vapor heating plant at the Henderlong residence and it seems to work to perfection. There is no question but what I can sell a number of these jobs this season.

Yours truly,

C. H. FELTON.

---

### J. J. NEUMAN

Plumbing,

Steam and Gas Fitting.

119 Front Street.

Telephone 1531.

Beaver Dam, Wis., March 10th, 1914.

Mr. P. M. Holt, Chicago.

Dear Sir:—

I am in receipt of yours of the 9th in reference to the RICHMOND Vapor System that I installed. In answer thereto will state that the plants I installed are in every instance working very satisfactorily and the owners are well pleased with the installation. Particularly so in the last plant I installed which is in a block consisting of stores and offices, as it requires less attention than any plant I know of.

If there is any other information I can give you, I will be glad to do so.

Yours truly,

J. J. NEUMAN.



IF IT'S  
"RICHMOND"  
IT'S RIGHT